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Proposals for Training Junior High School Teachers

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THE junior high schools across the country are just now beginning to feel the impact of the tidal wave of boys and girls who represent the great surge of population growth during the early war years. The years 1959 to 1960 will bring an even greater crisis to communities in their struggle to house and staff our seventh, eighth, and ninth grades. Yet there has been a curious lack of effort to plan for the training of teachers specifically qualified to meet the unique problems and challenges of junior high school teaching. While educators keep talking about bridging the gap, providing exploratory activities, encouraging social adjustment, and other well accepted phrases, superintendents are desperately trying to convince teachers trained for elementary and senior high schools that there are exciting challenges and opportunities in working with the twelve to fourteen year old group.

The problem may be attacked in several ways, but it would seem logical for colleges of teacher education to provide more adequately for specialized training of undergraduates for service in junior high schools. The University of Alabama, recognizing the need for specially trained teachers, is introducing a new course dealing with the unique competencies required of junior high school teaching. In this article the writers have attempted to set forth in broad outline some of the skills and understandings which might be the goals of such a course.

Let us consider some of the aspects of the junior high school which should be of importance to the teacher in training. Certainly a clarification and emphasis upon the functions of the junior high school would be indicated as a beginning point. According to Gruhn and Douglass[1] the essential functions of the junior high school should be: (1) Integration (2) Exploration (3) Guidance (4) Differentiation (5) Socialization and (6) Articulation. Some of the implications of these functions for junior high school teaching might be expressed as follows:

1. The importance of providing learning experiences that will

[1] Gruhn and Douglass, *The Modern Junior High School.* New York: The Ronald Press, 1956, page 31-32.

develop growth in knowledge, skills, attitudes, values, appreciations and habits.

2. The need for planning a smooth transition from the kind of class room experiences that boys and girls had in the sixth grade to those they will have in the seventh grade and beyond.

3. The opportunity that lies not only in using existing interests, but of introducing boys and girls to new interests.

4. The perculiarly important need of helping boys and girls learn the art and skill of getting on well with their age-mates as well as with older adolescents and adults.

5. The ever-greater demand for planning different kinds and levels of learning activities within each group to permit growth opportunities for youngsters of widely divergent abilities and backgrounds.

6. The logic of encouraging boys and girls of this age group to begin to plan thoughtfully for achieving vocational competence.

The functions and objectives stated above should provide the college student with a rationale for understanding some fairly clear cut characteristics that ought to be present in any effective junior high school program. The teacher in training should see that the junior high school is a unique kind of educational operation and not just a watered-down senior high school. A course for junior high school teachers as envisioned by the writers might logically be divided into four major areas: (1) The nature of the adolescent; (2) Curriculum content of the junior high school; (3) Methods of instruction; and (4) Guidance services.

UNDERSTANDING ADOLESCENTS

If schools are to provide the experience needed by boys and girls, it is necessary that prospective junior high school teachers understand the nature of adolescents. The period of adolescence which may be described as a transition from childhood to adulthood, is characterized by dramatic and amazing changes in the individual's life—physically, socially and emotionally.

With the exception of early childhood, physical growth is greater during adolescence than at any other time. Not only are there striking increases in height and weight but there are also very significant changes in the circulatory and endocrine systems. These physical changes, while important in themselves, exert a tremendous impact on the total behavior of the child.

The awkwardness of adolescents can be attributed in large measure to the disproportionate growth between the bones and

muscles. The adolescent suddenly finds that he has acquired much larger hands, feet, and legs without an accompanying increase in muscular skill. During this time, also, the vocal cords thicken, causing the adolescent's voice occasionally to break and squeak. Many adolescents become exceedingly shy and self-conscious as a result of such changes and tend to develop a number of defense mechanisms. The teacher who would work effectively with junior high school students in aiding them to gain security and self-confidence must have an understanding of adolescent growth problems.

While all normal adolescents experience a spurt in growth, teachers should learn to expect wide variation among adolescents in growth patterns and the rate at which growth occurs. Norms are based on averages involving thousands of children. The fact that a child's height or weight deviates from these averages does not mean that the child is abnormal. One of the important principles to be stressed in the training of junior high school teachers is the universality of individual differences.

For the adolescent himself some of the most perplexing changes are those produced by the endocrine system. Secondary sex characteristics appear; the sex glands mature; and for girls the menstrual cycle begins. The social and emotional consequences of these physical changes are great indeed. Not only must adolescents adjust to organic changes in their bodies, but they also experience for the first time strong heterosexual interests. Whereas previously boys and girls may have tended to ignore each other, they now reveal a keen desire for recognition and approval from the opposite sex. Social adjustments involving the opposite sex become increasingly important in all junior high school activities.

Studies indicate that on the average girls mature earlier than boys and that in the age range from 11 to 14 years girls are slightly taller and heavier than boys. In schools where grade placement is determined by chronological age, teachers may expect that among younger adolescents the girls will tend to display more self-confidence and aggressiveness in social situations than the boys. However, whatever the conditions, the teacher has a heavy responsibility to know how to provide suitable opportunities for teenagers to develop new acceptable social competencies.

One of the deepest psychological needs of the junior high school student is acceptance by his peers. Adolescence is a period when clubs, gangs, and similar group relationship begin to assume major

importance. The adolescent tends to become a strict conformist as far as the mores of his own peers are concerned. He models his behavior in terms of the standards of his group. He dresses the way his friends dress; he adopts their speech and mannerisms; and in general he tries to be a "regular fellow." When there is a conflict the conduct of his group and the demands of adult society, the teenager is likely to feel that his first loyalty is to the "gang."

Striving for independence from parental and adult authority is characteristic of the junior high school student. He is beginning to think of himself as an adult and wishes to be recognized as one. He desires his own private room in the home and he resents interference in matters of dress and conduct. He begins to demand the freedoms and privileges which he associates with adulthood.

Acquiring independence is an essential step in the development of the adolescent, and the school and the home must cooperate in aiding him to realize this independence within a framework of affection and security. If the school is to fulfill its responsibilty, the teachers must be trained to understand the emerging need for independent action on the part of adolescents and to recognize the behavioral mechanisms used by junior high school students in striving for this new status.

CURRICULUM CONTENT

In addition to the basic areas of social studies, language arts, science, and mathematics, there should be extensive provision in the junior high shcool curriculum for exploratory experiences in art, music, homemaking, business and clerical subjects, industrial arts, foreign languages, and of course, health and physical education. To be truly effective in meeting the needs of adolescents, the curriculum of the junior high school should also have certain characteristics which might be described as follows:

1. The content of any course or subject ought to be flexible enough to permit adaptation to varying interests, abilities, and needs of class groups or individuals within classes.

2. Constant efforts should be made to help boys and girls see the relationship between and among various areas of learning. Teachers in training need to understand some of the procedures currently in use that seek to facilitate the learning of these relationships such as fusion, integration, coordination, cooperative staff planning or the establishment of some kind of core organization.

3. The good junior high school program must be carefully articulated with the elementary and senior high school programs;

that is, it must provide learning activities of the kind and difficulty suitable to the youngsters who come to the junior high school from the elementary feeder schools; then in turn, it must seek to help as many boys and girls as possible to prepare for successful experience in the senior high school to which they will go.

4. Most of the content of the junior high school curriculum should be useful and interesting to all boys and girls; most vocational, avocational, and other specialization should occur in the senior high school rather than in the junior high school.

5. The junior high school program should contain activities that will result in learning of many kinds; there should be much concern for learning of attitudes, values, social skills, new interests and appreciations as well as the learning of new facts, information and intellectual skills.

Once the teacher accepts the validity of these characteristics of a good junior high school program, his next questions likely will be: "How do you teach in the classroom in order to give life to this kind of a curriculum? Are there some special kinds of teaching procedures that are peculiarly effective with boys and girls of this age level?"

TEACHING METHODS

Undergraduates who are training for general secondary school teaching will be introduced to much of what we know about how adolescents learn. However, because of the nature of the objectives of the junior high school and because of the nature of boys and girls of the age group represented in grades seven through nine, there seem to be certain aspects of teaching methods and techniques that might well be emphasized for those who plan to become junior high school teachers.

Differentiated Assignments. It is possible, desirable, and perhaps even mandatory for various students to be working at different difficulty levels, and even on different materials at the same time. Subgrouping within the class to provide for ability and achievement differentials of the students is frequently the only way of avoiding the twin evils of frustration and boredom.

Varied Activities. The Junior high school teacher has to be constantly searching for more ways than just the "reading about" way of learning. Hearing, seeing, touching, and manipulating are all avenues to learning which will extend and enrich the growth of the students.

Purpose. It is time well-spent to help as many students as

possible understand and arrive at their own acceptance of the reason for each kind of learning that is pursued. "Why do we have to study this?" is a question that deserves thoughtful and careful consideration by the teacher and the whole class.

Cooperative Planning. Junior high school boys and girls learn to participate in the planning of what is to be studied and how it is to be studied. At first, the students' part in the planning may be small, but gradually, as they learn how, they can assume a more important role in the planning. The teacher, of course, will always retain an important role in the planning activity.

Change of Pace. The attention span of junior high school youngsters is not as long as the more mature person. The teacher must be sensitive to the symptoms that indicate that one kind of activity is reaching the point of diminishing returns, and suggest a switch to a different kind of activity.

Recognition. Adolescents are especitally sensitive and responsive to a pat on the back. Kindness and encouragement have been found to be much more conducive to increased efforts than threats or intimidation. It goes without saying that sarcasm and ridicule are especially devastating to these boys and girls.

Precept or Example. The most potent force influencing the learning of values, attitudes, and behavior is the teacher himself. Conversely, the average junior high school youngster is somewhat impervious to moralizing. What you say makes far less difference than what you are.

Assignments. Most new teachers are appalled at the degree of repetition and detail that are necessary in making assignments. There is a growing feeling that homework is something less productive than once thought to be. This has led to a trend toward longer periods and more supervised and guided study in the classroom.

Relevancy. The learning that takes place in a classroom will be more rapid, more permanent, and more satisfying to the extent that the learning activity relates to the lives and experiences of the pupils in the class.

Evaluation. Junior high school boys and girls can learn to play a responsible part in judging how effectively they have learned the things which they set out to learn. This judging process can be a continuous, day-to-day process, and not just a six-week, teacher-controlled proclamation.

Materials. The availability of widely diverse instructional ma-

terials of all kinds is a critical element in good junior high school teaching. Often overlooked is the possibility of many of these instructional materials being developed or made by the pupils themselves.

GUIDANCE

One of the most important services of the junior high school is guidance. Students at the junior high school level, as already pointed out, are in a period of transition in which they are confronted with many new problems. For students entering the junior high school there are such matters as becoming oriented to the building, developing new acquaintances among teachers and agemates, and learning something of the program of studies. For older students there are problems of developing new social skills, making more specific educational and vocational plans, and in general growing in self-understanding. Some of the problems are large, some small, but for the adolescent they are all significant.

Guidance is not an appendage of the school's activities but it is an integral part of the total educational effort. While the services of specialists are needed in the guidance program, every member of the faculty and staff has guidance responsibilities, and the prospective junior high school teacher should clearly understand the importance of the teacher's role.

The following principles which would appear to be fundamental to a sound guidance program, should be emphasized in both preservice and in-service courses for the training of junior high school teachers:

1. Guidance is for all students, not for just those individuals who seem to have some special problem.

2. Guidance and teaching are not separate activities but are common elements in the educational process.

3. Guidance involves all members of the staff.

4. Guidance is not simply telling someone what to do but is an organized program whereby students are helped to make wise choices and decisions.

5. Guidance has as its scope all areas of the individual's life—educational, vocational, health, citizenship, etc.

6. The guidance process should use both individual and group techniques.

7. Guidance should be based upon all available data which is valid and reliable.

8. Guidance is a continuous process.

9. The ultimate goal of guidance is to aid the individual to become more self-directive.

Techniques and methods for implementing these principles cannot perhaps be incorporated into one course or several courses, but colleges should see to it that prospective junior high school teachers have been given an introduction to the theory of guidance and that they also have had an opportunity to observe the operation of a guidance program in action.

One area of guidance activities which might receive attention early in the teacher training program is the homeroom. Since the majority of teachers are assigned homeroom duty, adequate provision should be made for orienting cadet teachers to the guidance possibilities of the homeroom. Although some administrators still look upon the homeroom as simply a place to have student attentance checked, the real purpose of the homeroom, as the name implies, is to provide for the student a home away from home, to provide a situation where the student can feel that he is known and understood by a sympathetic and responsible adult who can give unity and direction to the student's over-all program.

The first obligation of the homeroom teacher is to serve as counselor to his students. It goes without saying, therefore, that the homeroom teacher, to be successful, must possess a number of special skills and competencies. He must understand the techniques of couseling; he must be able to win the support and confidence of his students; he must have a knowledge of psychological tests and measurements; and he must have the background and training necessary to aid students in solving their many and varied problems.

SUMMARY

There has been only limited effort to prepare teachers for service in the junior high schools. A study of adolescence indicates that the age group between twelve and fourteen years has unique characteristics and needs. If the modern junior high school is to fulfill its expectations and obligations, there is a need for specialized training of personnel at the junior high school level.

The Principal's Responsibility to the Beginning Teacher

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THE RESPONSIBILITY for helping the beginning teacher rests heavily upon the school principal, irrespective or organizational level. The gravity of this responsibility is accentuated by the need to retain teachers within the profession and to up-grade standards of performance on the part of those in-service.

Indicative of the high incidence of beginning teacher "drop-out" are figures recently released by the U. S. Office of Education. Approximately twenty per cent of the beginning teachers fail to return for a second year of teaching and only fifty per cent remain in the profession at the end of five years.

There are many reasons why teachers leave teaching. Salary, marriage, lack of professional preparation, sub-standard credentials, and failure are prominent causes. These apply to the established teacher as well as the beginner.

Examination of the complexity of the beginning teacher task suggests that the success or failure of the beginning teacher is closely related to the quality of supervision exercised by the building principal. Although the principal is not in the "salvage" business he can be instrumental in making the job of the beginner more satisfying—at that same time he will be contributing to instructional improvement with concomitant benefits to student, parent, and community.

In surveying the specific things a principal can do to help the beginner it seems profitable to divide them into pre-service and in-service aids.

HELPING THE BEGINNER BEFORE SCHOOL OPENS

The skillful principal will be able to accomplish some of the specifics which follow in group meetings, but many of them can best be realized in individual conferences with the beginner. In most buildings the number of beginners will be sufficiently small to allow considerable individual attention. Support for the utilization of group in-service techniques has been growing in recent years and much of the best instructional leadership is exercised in the group context. The specifics suggested here may be met either

on a group basis or individually—the important consideration is that planned provision be made for their accomplishment.

(1) Let the beginner know the philosophy of your particular school

(2) Discuss the beginner's responsibility within this framework

(3) Review the aims and objectives of the beginning teacher's grade, subject, or core program

(4) Let the beginner know your position on creativity, imagination, and the free exercise of ideas

(5) Provide the beginner with all available information about students who will populate the classroom

(6) Encourage continuous study of pupil personnel through records, parental conferences, and discussion with experienced school personnel

(7) Acquaint the beginner with the range of available teaching materials

(8) Give the beginner an overview of the type of faculty program in operation

(9) Review the class schedule, room assignments, and other problems relating to the day to day operation of the school

(10) Introduce the beginner to other members of the school family as early as possible—teachers, cooks, clerical staff, bus drivers, and custodians

(11) Review and discuss district and building policy about discipline

(12) Discuss the area of community responsibilities of the beginning teacher

(13) Lend assistance in finding living accommodations for the beginner

(14) Encourage and participate in community affairs welcoming the beginning teacher group

(15) Encourage the beginner to visit and come to know the experienced staff members before school opens

(16) Be accessible to the beginner during those anxious days before school opens

Conscious effort by the principal to incorporate these specifics into his program of beginning teacher supervision will contribute to the adjustment of the teacher to the system, ease the feelings of misgiving that plague the beginner about opening day, and instill a feeling of confidence in the instructional leadership of the principal.

Helping the beginner does not stop with the principal's preservice efforts. It is the first phase of a continuing program of supervision. Energies expended in the development of the pre-

service phase will go unrewarded if the in-service responsibilities of the principal are ignored.

SUPERVISING THE BEGINNER IN-SERVICE

In fulfilling regular supervisory responsibilties the principal will be meeting many of the needs of the beginning teacher. The beginner will be participating in the total in-service program as the school year progresses. Contacts with colleagues in committee assignments are healthy experiences and opportunities for this kind of in-service growth need to be provided. Specifics suggested for inclusion in the in-service phase of beginning teacher supervision are:

(1) Be available to the beginner on opening day
(2) Seek to establish rapport that will encourage the beginner to ask for advice and assistance as problems arise
(3) Visit the classroom during the first few weeks for the purpose of guiding, helping, and encouraging
(4) Help the beginner recognize his own potentialities and abilities
(5) Utilize experienced and understanding teachers in the guidance of beginning teachers
(6) Allow a place in faculty meetings for the participation of beginning teachers
(7) Use conferences discretely—seek to make them problem centered and not teacher centered
(8) Encourage participating membership in professional organizations
(9) Avoid overloading the beginner with in-service committee assignments as well as extra-curricular responsibilities
(10) Base beginning teacher appraisal on total teaching effectiveness

Supervision is a social process; it involves close human interaction between superior and subordinate. The beginning teacher often feel on the spot and the principal imbued with a sense of responsibility for instructional improvement may be impatient. Both beginner and principal needs to understand that teachers grow in teaching effectiveness, but that growth is often slow. Basic to the supervisory relationship is the feeling of service as opposed to a sense of inspection.

Through the intelligent exercise of good supervisory practices it is reasonable to expect that more beginning teachers will remain in the classrooms. It is also reasonable to expect that beginning teacher effectiveness will be substantially improved.

Guidance, One Solution to the Shortage of Scientific Personnel

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THE RELUCTANCE of talented young people to choose science as a career has resulted in a decrease in the number of individuals being trained in science. Guidance, when properly used by the teacher is one means of helping to relieve this situation.

THE SITUATION

On March 2, 1955 the revised list of "Currently Essential Activities and Critical Occupations" was released by the Secretaries of Commerce and Labor. For the first time the high school science teacher was included. This not only indicates a shortage of science teachers, but it re-emphasizes the shortage of all scientific personnel. Teaching has been called the "Mother of the Professions" and in no other field is this more applicable than in the field of science. Since 1950 the total number preparing to teach science has decreased 51.3 per cent. There has been a decrease from a total of 9,096 to 4,434 students preparing to teach science, and only about 38 percent of those qualified actually enter the teaching profession.[1]

The Bureau of Labor Statistics estimates, that at the present time industry is short 40,000 engineers and that there is a yearly need of 30,000 new engineers. With less than 25,000 engineers graduating each year, this problem will grow more acute.[2]

It is impractical that figures be given for the shortage that exists in each field of science. One may find similar situations in other areas of science if such publications as *Occupational Outlook Handbook*[3] and *Science Education*[4] are examined.

WHO WILL RELIEVE THIS SHORTAGE?

The question may arise, "Where can the supply of personnel be found to relieve this shortage? After they have been located, how can they be attracted to science as a career?" The answer to the first question is simple. There are only two sources for the

[1] Maul, R. C., "Is the Science Teacher Shortage a Curriculum Factor?", *The Science Teacher*, Vol. 23 (May, 1956), pp. 181-183.
[2] Dunning, J. R., "Tomorrow's Engineers," *The Educational Focus*, Vol. 26 (February, 1955), p. 19.
[3] *Occupational Outlook Handbook*, Bulletin No. 998, 1951, Washington, D. C.
[4] Fitzpatric, F. L., "Scientific Manpower: The Problem and Its Solution," *Science Education*, Vol. 39 (March, 1955), pp. 97-102.

origin of a large supply of trained scientific personnel. First, there are those students planning to attend college and those completing the first two years of college. Second, the largest group may be found in the elementary and secondary schools of the nation. The answer to the latter question is not an easy one. In the final analysis, the problem is that of interesting more capable youngsters in scientific careers.

Guidance, a Possible Solution

There are various ways the science teacher can interest students in scientific careers. The science teacher should not expect the school counselor to make the initial step in informing the students about the opportunities in science.

The science teacher should first prepare an informational library in the science room. This should consist of pamphlets and career booklets concerning science. A great wealth of free material can easily be obtained. The National Science Teachers Association has prepared a booklet, *Keys to Careers,* listing free and inexpensive materials that can be used in an informational program such as this.

Second, the science teacher should write to colleges and other organizations that sponsor scholarships. A file of this information should be kept with the other information. This compiled information should be made available to the students in such a way to allow each student to take advantage of the section that most interests him.

Third, the teacher should request a college catalogue from the various state colleges. This should be placed in the science room library for the use of each student. Information from out-of-state colleges and universities should also be included if there is a need for it.

Fourth, the teacher should never miss an opportunity to encourage the students to brouse through the collected materials. The teacher should also volunteer to answer any question the students may have regarding this material.

Fifth, other information might be furnished through the science club by attending and participating in science fairs and career conferences. Resource people from colleges and scientific occupations may be placed on the programs of the club. All of these activities will serve to inform the student of the opportunities in a scientific career, and many of them such as the science fair and

the science club will provide the student with activities in which he may fine a lasting interest.

The science teacher should request duplicate copies of much of the material. The duplicate copy should be placed in the school library. In this way the information wil reach students not enrolled in science.

The science teacher need not have a thorough knowledge of guidance to provide the students with information concerning careers in science. He should have the attitude that it is a part of his teaching duty to inform the students. This plan need not be limited to senior high school classes. Students should be exposed to this type of information through both junior and senior high school.

The use of this type of information and guidance is the initial step in making more students aware of the unlimited possibilities in science. If the teacher will take the responsibility of presenting the information it is probable that more young people will select science as a career.

The Junior High School Movement in North Carolina

LLOYD YATES THAYER
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A RECENTLY COMPLETED study by the present writer sought to ascertain the status of the junior high school movement in North Carolina. The study gave especial attention to the 23 white Junior High Schools which are separately housed, separately administered, and contain grades 7, 8, and 9 and those grades only. Because there are numerous grade organizations in North Carolina junior high schools, all organization types were included in portions of the study. North Carolina junior high schools were compared in a number of administrative practices and curriculum areas with North Carolina schools of other types and with junior high schools from other southern states. Data for the study were gathered from professional literature and from a questionnaire which was answered by school principals. The study involved 149 schools with a total enrollment of 108,000 pupils and with a total staff of 4200. The development of junior high schools in North Carolina was related to their development in the nation.

The Junior High School Movement in North Carolina began and has progressed with little centralized planning. Local school systems may establish and operate junior high schools without state approval, but the basic plan for the organization of schools is an elementary school of eight grades and a high school of four grades. Local systems are advised to give careful attention to the essential purposes of the junior high school organization before establishing such schools.

North Carolina is not alone in this permissive arrangement for the establishment of a junior high school. In 25 states there is either no legislation authorizing establishment and operation or authority rests with the local or county board of education. In the remaining 23 states there is a varying degree of state jurisdiction: in 12 states prior approval at the state level is required before a junior high school may be established; in seven states the school may be organized upon local initiative but cannot operate until certain standards are met; in four states the junior high school program must meet state requirements before state aid is granted.

This variation in regulations and difference in policy for the establishment of junior high schools within the individual states has contributed to the confused organizational pattern of the junior high school movement on the national level. It is not surprising to find that one-half of the states have 20 per cent or more of their junior high schools organized in a basis other than 7-9. North Carolina sets up its high school standards on the basis of grades 9-12 only, and arrangement which automatically encourages the continuation of the 8-4 organization.

In 1954 the United States Office of Education, upon information compiled for the year 1952, reported that North Carolina had the smallest per cent of reorganized schools in the nation. Whereas Maryland and the District of Columbia have no four-year high schools, nearly nine out of 10 North Carolina high schools still form a part of the 8-4 plan. The time is ripe for an increase in the number of junior high schools in North Carolina. That increase is now in progress although the junior high school enjoys only permissive status in North Carolina.

A questionnaire addressed to administrators of North Carolina junior high schools, to administrators of other selected North Carolina non-junior-high schools, and to administrators of selected junior high schools within the area of the Southern Association of Colleges and Secondary Schools dealt with practices now being employed in organization, administration and curriculum; and with beliefs which administrators have about the junior high school as an organization type.

Responses were received from the principals of 65 North Carolina junior high schools, from 50 North Carolina non-junior-high schools, and from 34 out-of-state junior high schools. These three groups were tabulated as to organization types and various statistical data were compiled from the questionnaire. Certain tangible items regarding the principalship and office operation were secured. Attention was given to the division of the school day into class periods, lunch period, mixed-activity period, club period, and homeroom period. Administrators were asked to rank the purposes of their homerooms, to tell upon what basis pupils were assigned to homerooms and to content-subject classes. Information was secured on the problem of special classes for the advanced and for the retarded. Data were secured on both intramural and interschool athletic participation. The school curriculum was examined as to source, composition of groups constructing the curriculum, and type of curriculum organization employed. The use made

of pupil committees concluded that part of the inquiry devoted to practices. The "opinion" phase of the study named 24 familiar purposes and functions of the junior high school and secured the opinion of the administrator on each of these through use of a five-point scale.

From the store of information secured, two series of tabulations were run. First, the 65 North Carolina junior high schools were compared with 50 North Carolina non-junior high schools and with 34 out-of-state junior high schools. In the second tabulation the North Carolina junior high schools were restricted to those 23 white schools which are separately housed, separately administered, and contain grades 7, 8, and 9 and those grades only. These schools were then compared with 23 North Carolina non-junior high schools of approximately the same enrollment and with 23 out-of-state junior high schools of the same size.

One especially noticeable fact about the junior high school organization within North Carolina is the very wide variation of organization types. In some instances the community and the administration are not together on terminology and in one confused instance the superintendent listed a school as a junior high while the principal said it is not a junior high school. After correspondence in every instance with superintendent, with principal, and with the State Department of Public Instruction, it was established that there were 73 schools in North Carolina in the spring of 1956 which could be accurately designated junior high schools. Questionnaire responses of valid and usable quality were received from 65 of the 73 designated junior high schools.

After the 65 junior high schools were analyzed, an effort was made to secure similar schools for comparative purposes. Each junior high school was paired with a North Carolina non-junior-high school first of all in relationship to size of faculty. Geographic location and economic factors were taken into account as it was felt that these would have considerable bearing on the philosophy and instructional program of the school. In North Carolina most junior high schools are in city administrative units. Because the city administrative units vary in the amount of local support, the problem of equal opportunity among the schools arose. As a partial solution to this problem, wherever it was possible to do so, a school from the same tax district was shosen. If a city school was not available, effort was made to secure a rural school that had approximately equal financial support. Possibly because the questionnaire was designed for junior high school use, the re-

TABLE I. ORGANIZATION PATTERN OF 149 SCHOOLS IN THIS STUDY, 1955-1956

	N. C. Junior High Schools	*N. C. Non-Junior High Schools*	*Out-of-State Junior High Schools*
Number of Schools	65	50	34
Organization Grade Pattern			
1-12		24	
1-9	5		
1-6		5	
1-6, 7-9	10		2
1-7		4	
1-8	2	10	1
4-8		1	
6-12	1		
6-9	2		1
6-8	6		2
7-12	4		3
7-9	23		17
7-8, 9-12	4	1	1
7-8	6		7
8-12	1	1	
8-9	1		
9-12		1	
10-12		3	

sponse from the originally chosen non-junior-high schools was not fully satisfactory. The 50 schools which returned adequately completed questionnaires comprise a broad coverage of the State and represent nine organization patterns.

In order that a comparison might be made of the North Carolina junior high schools with junior high schools of other states, the area covered by the Southern Association of Colleges and Secondary Schools was chosen. Within this region are ten states in addition to North Carolina. The Chief State School Officer in each of the ten southern states was asked to suggest certain schools whose "procedure and philosophy are typical of the region." All states in the area covered by the Southern Association of Colleges and Secondary Schools are represented in this survey. No state has less than two nor more than five schools in the comparative group.

After Charlotte's Alexander Graham Junior High School was organized in September, 1923, junior high schools were organized

slowly but fairly regularly in North Carolina until 1949. Then growth was more rapid as half the schools have been organized since 1949. The two years of largest junior high school growth in the State were 1951 and 1955. Nine of the 65 schools came into being in 1951 and 10 were organized in 1955. As Table I indicates, there are in North Carolina 23 white junior high schools with grades 7-9, separately housed, separately campused and separately administered. Sixteen of the 23 junior high schools which are the center of this study began with grades 7-9. Only one school originally organized as 7-9 has departed from that organization and this is a temporary move due to grade 6 overflowing the elementary buildings. This is verified by both the superintendent and principal. Despite the confused organization pattern of the junior high schools in North Carolina as demonstrated by the 12 organization

TABLE II. PUPIL AND STAFF INFORMATION FOR 149 SCHOOLS, 1955-1956

	N. C. Junior High Schools	*N. C. Non-Junior High Schools*	*Out-of-State Junior High Schools*
Number Schools	65	50	34
Average School Membership	710	760	786
Pupils per Teacher	26.6	28.0	24.1
Average Number Faculty	26.7	27.2	32.6
a. Men	6.0	4.5	11.1
b. Women	20.7	22.7	21.5
Non-teaching Principals	51	37	30
Full-time Teaching Principals	2	2	0
Average Years Principal Experience	13.5	16.2	10.3
No Principal Experience in 1955-1956	3	2	2
Full-time Secretary	42	23	26
Part-time Secretary	7	3	3

types, the 7-9 has by far the highest incidence. It appears significant that seven schools have moved to the 7-9 pattern whereas only one school has left it, and this temporarily.

Table II provides a further example of the type information secured from the questionnaire, there being 36 tables in the full study.

There is not space in a brief to validate each finding through a persentation of detailed information. The findings are grouped into three categories: (1) Areas of distinct differences between junior high schools and non-junior high schools: (2) Comparisons between North Carolina schools, irrespective of organization type, and selected junior high schools of the Southern Region; (3) Differences between North Carolina junior high schools and North Carolina non-junior high schools.

AREAS OF DISTINCTIVE DIFFERENCES BETWEEN JUNIOR HIGH SCHOOLS AND NON-JUNIOR-HIGH SCHOOLS

There are a number of areas in which the differences between the junior high schools and non-junior-high schools are distinctive. There are naturally variations in extent or in degree, but in the areas listed below it appears that the junior high school organization contributes to a distinctive educational approach to problems which must be met if the educational needs of the early adolescent are to be met properly. In this present comparison, location of the junior high schools by states is disregarded except where specifically mentioned.

1. The average number of pupils per teacher is definitely less in the junior high schools. The junior high schools averaged 24.8 pupils per teacher in contrast to 27.8 pupils per teacher in the non-junior-high schools. One noticeable difference between the two groups of schools is the increased use of specialists by the junior high schools. It is entirely possible that the smaller number of pupils per teacher in the junior high schools permits these schools to employ more teachers of special subjects. Also, a smaller pupil-teacher ratio may contribute to increased individualized instruction of the junior high school pupils.

2. There is a distinct difference between the junior high schools and other organizations in the number of self-contained classrooms. This fact may be expressed in several ways: the junior high school organization is less conducive to the self-contained classroom; the non-junior-high schools do not make extensive use of specialists; there is much more departmentalization in the junior high schools.

In the entire study the non-junior-high schools have 92 per cent of the seventh grades self-contained and 81 per cent of the eighth grades self-contained. The North Carolina junior high schools have 67 per cent of the seventh grades and 25 per cent of the eighth grades self-contained. The out-of-state Junior high schools are significantly more heavily departmentalized, with 20 per cent of the seventh grades and only nine per cent of the eighth grades being self-contained. The North Carolina junior high schools, which have the 7-9 grade organization, continue the same general pattern of self-contained seventh grades with 61 per cent being thus organized, but they make a significant drop in grade eight. In the 23 North Carolina junior high schools there is one self-contained eighth grade; in the 23 non-junior-high schools there is one eighth grade not self-contained.

3. The junior high schools are definitely stronger in student activities which are scheduled at a designated period. Eighty-five per cent of the North Carolina junior high schools and 70 per cent of the out-of-state junior high schools have mixed activity periods in contrast to only 36 per cent of the non-junior-high schools. The same pattern of participation also applies in the smaller group of selected schools. The junior high schools hold a distinct advantage in the period which makes a variety of activities possible.

4. The junior high schools make the transition from instruction by one teacher to instruction by many teachers in a more gradual manner. In all non-junior-high schools except two the transition from the self-contained class to full departmentalization is achieved abruptly upon entry to grade 9. Transition is made less abruptly in both junior high school groups. As practically all schools departmentalize in grade 9, if the junior high schools are to make the transition gradually, they must begin some departmentalization of instruction earlier. There is unmistakable evidence that the junior high school organization does bridge the gap between one-teacher, elementary school instruction and the multiple-teacher, secondary school instruction.

5. The homeroom period as a definitely scheduled part of the school day is a characteristic feature of the junior high school. The junior high school is not only more apt to have a definitely scheduled homeroom period, but the homeroom period is generally longer than in other schools. This gives the junior high school a distinct advantage in specific provision for pupil guidance and counseling.

6. Junior high schools make more provisions for the gifted pupils and more provisions for the retarded pupils. This is true in both tabulations with both junior high school groups. The difference may be construed as significantly in favor of the junior high schools, but it should be observed that all groups are weak in providing special services for these two extremes of the student body.

7. The junior high schools indicate a much larger use of the "core" program in instruction. This is true in the North Carolina junior high schools to an appreciable degree. Self-contained rooms do not appear to use the "core" method of instruction in many instances.

COMPARISONS BETWEEN NORTH CAROLINA SCHOOLS, IRRESPECTIVE OF ORGANIZATION TYPE, AND SELECTED JUNIOR HIGH SCHOOLS OF THE SOUTHERN REGION.

Although slightly more than three-fourths the schools in the entire survey were North Carolina Schools there were enough out-of-state schools to provide certain comparisons. It should be borne in mind that the Southern Region schools were recommended by responsible people within the respective states in response to a request for "representative"schools. How well their choices met the qualification cannot be verified. Assuming the Southern Area schools are typical of their class these comparisons are evident.

1. The out-of-state schools have a much smaller number of pupils per teacher. The North Carolina schools average nearly four pupils per teacher more than the out-of-state schools.

2. The out-of-state schools have many more male faculty members than either group of North Carolina schools.

3. Out-of-state schools have more non-teaching principals.

4. Out-of-state schools have more secretarial assistance.

5. Out-of-state schools have fewer self-contained classes and begin the multiple-teacher plan of instruction earlier.

6. Out-of-state schools have a more extensive club program.

7. Out-of-state schools use the homeroom period to a larger extent for study, for mixed activity, and for clubs.

8. Out-of-state schools make a larger use of subjective factors in assigning pupils to homerooms.

9. Out-of-state schools place much more emphasis upon local courses of study and less emphasis on the State Course of Study. The teachers' judgment in shaping the curriculum is a stronger

force in the other states of the Southern Area than in North Carolina.

10. Use of the "core" method of instruction is twice as prevalent in the out-of-state schools as in the North Carolina junior high schools and three times as prevalent as in the North Carolina non-junior-high schools.

11. Out-of-state schools are more apt to have local curriculum committees.

DIFFERENCES BETWEEN NORTH CAROLINA JUNIOR HIGH SCHOOLS AND NORTH CAROLINA NON-JUNIOR-HIGH SCHOOLS

The public schools of North Carolina are operated, supervised and financed prodominantly by the State. In such a highly centralized system one may expect considerable uniformity among the schools. Actually the data do show considerable conformity to a pattern throughout the 115 North Carolina schools. Of greater interest, however, are the differences which appear in schools with the junior high school type organization in contrast to schools with other type organizations. If any group of schools in a highly uniform system is significantly different from other groups in that system, one factor giving rise to these differences may be the type of organization. The data gathered in this study revealed the following differences between North Carolina junior high schools and North Carolina non-junior-high schools.

1. Junior high schools have a smaller pupil-teacher ratio.

2. Junior high schools have a higher percentage of faculty members who are men.

3. Junior high school principals are more apt to be non-teaching principals.

4. Junior high schools are more apt to have secretarial service.

5. Junior high schools have a smaller per cent of their seventh and eighth grade classes self-contained.

6. Junior high schools have more long "blocks-of-time."

7. Junior high schools make the transition from the one-teacher, elementary instruction to departmentalized, high school instruction in a more gradual fashion.

8. Junior high schools show a much wider use of the mixed activity period.

9. Junior High schools are more apt to have a homeroom period.

10. Junior high schools use homeroom periods to a greater extent for guidance and counseling.

11. Junior high schools employ subjective factors to a larger degree in assignment of pupils to homerooms.

12. Junior high schools make more use of Standardized Test results in assigning pupils to subject classes.

13. Junior high schools are twice as likely to provide special opportunities for the gifted.

14. Junior high schools are more likely to provide special opportunities for the retarded.

15. Junior high schools tend to place more emphasis on the local course of study, less on the State Course of Study.

16. Junior high schools use the "core" type of instruction to a larger degree.

17. Junior high school administrators believe strongly that the 6-3-3 organization is a definite aid in meeting needs of pupils.

The junior high school has a philosophy which is uniquely and distinctly its own. Although the purposes of the junior high school have been modified in application and revised to meet changing needs, the fundamental objective of the institution remains constant. To the degree that junior high school leadership is dedicated to the premise that early adolescents are entitled to a program of education keyed to their developmental needs, to that extent the junior high school will fulfill its obligation. It seems evident that the junior high school is doing more for the youths in its age category than are other types of schools.

System-Wide Evaluation after Two Years

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Southern Association of Colleges and Secondary Schools

DURING the last decade the evaluation of elementary and secondary schools throughout the South has been proceeding at a rapid rate. Every high school accredited by the Southern Association of Colleges and Secondary Schools has been evaluated through a process of self-study, making use of the 1940 and 1950 editions of the *Evaluative Criteria* developed by the Cooperative Study of Secondary School Standards over a period of some twenty years. The self-study was followed by a visit from a committee which reviewed the findings of the self-study and made recommendations.

A self evaluation guide was developed by the Southern Association for elementary schools and has had wide acceptance and use throughout the South. A logical suggestion evolved from the wide use of this technique of evaluation in both elementary and secondary schools. Why not evaluate schools systems as a whole? The Southern Association spearheaded this movement by conducting an experiment in system-wide evaluation under the direction of Dr. William Alexander. Six school systems participated in the pilot evaluation over a period of two years. Both a self-study and visiting committee technique were used with materials and methods of procedure evolving during the process. Although no set of criteria was used schools were asked to identify problems of great concern to them and to describe their attack on these problems.

The essential phases of system-wide evaluation for school improvement were reported as follows by the committee undertaking the pilot studies:

1. The identification of efforts toward school improvement and their outcomes, by the personnel of the school system concerned.
2. The review of this self-evaluation by a joint study committee representing the system, the state department of education, and the Southern Association of Colleges and Secondary Schools, followed by assessment of problems for further study by the school system.
3. Continued work on the problems by the school system with periodic evaluation and report of progress.

In November, 1957, the writer was asked to make a report to the coming December meeting of the Southern Association at Richmond, Virginia, on "System-Wide Evaluation After Two Years." A questionnaire was devised and sent to the school systems having participated in the pilot evaluations. There were:

Oak Ridge, Tennessee; Mr. L. P. Cushman, Superintendent
Newton County, Georgia; Mr. J. W. Richardson, Superintendent
Fayette County, Kentucky; Miss Elsie Hayes, Supervisor
Orange County, Florida; Mr. R. Earl Kipp, Superintendent
Shelby, Alabama; Mr. Woodrow Elliott, Superintendent
Nativity Parish and Mother of Sorrows Parish, Biloxi, Mississippi; Reverend Geoffrey O'Connell, Superintendent

The respondents were asked to evaluate their experience with system-wide evaluation, indicate whether they favored continuing its use, and make suggestions for improvement. Those who reported on their experience with the process—8 superintendents or supervisors, 18 principals, and 17 teachers—were practically unanimous in their approval of the system-wide procedure. Thirty-nine out of the forty-three persons replying indicated that they favored continuing the system-wide process. Only one person in each category felt that the system-wide process should not be continued, and in each negative reply suggestions were made for improving the procedures so that they would be acceptable.

Many suggestions were made for improving the experience. Predominant among them were:

1. More time to do the job
2. More pre-planning and follow-up
3. More pre-constructed guides, criteria, and instruction
4. Look both at the individual schools and the systems
5. Involve more people
6. Involve the director and consultants over long periods of time
7. Publicize report and recommendations
8. Act upon the recommendations as soon as possible

In moving toward system-wide evaluation the Southern Association has taken a timely and historic step. Those participating in the early experimentation with the process indicate that it has real potential for a useful future.

The Place of History in the Curriculum*

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IN NOVEMBER, 1945, some 300 delegates from 44 nations assembled in London to draft the charter of the United Nations Educational, Scientific and Cultural Organization. Alexander Meiklejohn has recorded something of the depth of conviction and the intensity of feeling that motivated the educators present at that meeting:

"No one present at the London conference could fail to feel the passion, the desperate determination, which ran through all its deliberations and decisions. The women and men who took part in the meetings were "intellectuals." But their logic was not cold. It was on fire. It was aflame with eagerness for the success of the United Nations enterprise–

"As one listened to the discussions in London, two themes were constantly recurrent, constantly dominant. First, it quickly became evident that teachers from other lands believe, as strongly as we of the United States do, in democratic freedom for all mankind. Without hesitation they adopted the goal that human beings, irrespective of climate, status, race or any other normal differentiations, should be equally educated–

"Second, knowledge is an instrument whose value consists in its usefulness for human welfare. Man has invented many machines. But the most powerful of them all–for good and for evil–is his own mind. And that mind has work to do for humanity."

This statement of Alexander Meiklejohn is indicative of the determined effort of educators throughout the world to strengthen intelligent action. It is imperative that we find some way to imbue all men with the desire to act intelligently, and to equip them with the intellectual tools requisite to intelligent action. Education everywhere must find its strength in the cultivation of the intellectual and moral behavior of man.

The basic goals we seek to realize are concerned with both morals and the intellect. The "good" citizen, as expressed by Lewis Paul Todd, believes in the inherent dignity of man, the individual. He is, therefore, tolerant, understanding, and humane,

* Based on the points contained in Lewis Paul Todd's chapter in the Seventeenth Yearbook of the National Council for the Social Studies, 1946.

free from the burden of bigotry, prejudice and discrimination. He believes in the equality of man under law. He believes in these values as desirable for all men irrespective of race, color, creed, or national origin. But the "good" citizen also believes in the potentialities of the intellect. He knows that a world of free men can be constructed only by individuals who have pledged themselves to work with the tools of intelligence. He realizes that unless a substantial number of the world's people place first loyalty to reason as a means of solving social problems, there will remain the danger of decisions arrived at by force.[1]

These are the basic objectives of education. They are not all inclusive; there are other purposes for which our schools exist and other goals which they must realize. But these are the basic purposes to which every course in the curriculum and every teacher must be dedicated.

What contributions can history and the teachers of history make to an educational program which has as its chief goal the development of a world citizenry founded on morality and directed by intelligence?

History makes four unique and indispensable contributions to such an educational program; they are:

1. History provides an understanding of the inevitability of change.

2. History provides an understanding of the fact that change and progress are not necessarily synonymous.

3. History teaches us that men in every age have been confronted with the same fundamental problems which we face today.

4. History gives us "the historical method."

These are indispensable functions that history fulfills. From history alone we gain an understanding that change is inevitable. Men's minds become rigid without this understanding; they close, and as they close the opportunity for exercise of the intellect is limited. The man who understands the inevitability of change is in a position to face the future with that courage and flexibility which will enable him to adapt, to refashion his ideas and his way of life to meet the needs of new times and changed conditions.

If the world is to become better it will be because men who recognize the inevitability of change try to direct the future and reshape it nearer to the desirable. There can be no open mind

[1] Todd, Lewis Paul, "Opportunities for American History," *The Study and Teaching of American History*, Seventeenth Yearbook, National Council for the Social Studies, 3-16, 1946.

without this recognition of the necessity for change. Without the open mind intelligence cannot direct human affairs.

A second contribution of history is an understanding of the fact that change and progress are not necessarily synonymous. While we in the Western World have been learning to control the forces of nature, and while we have made rapid technological progress, we have made too little progress in the art of decent living. We travel much more swiftly than our ancesters, but for what ends? We have launched artificial satellites, but we have not provided adequate food, clothing, and shelter for all of our people. Larger political units have replaced the feudal manor and the walled city, yet we still fight wars. Far more of us are educated, yet we are still victims of prejudice and rationalization. Despite all our progress, there is a real question whether we live for better purposes than did the men of the past. Progress cannot be measured without taking account of life values of people of other times and places.

In the third place, from the study of history we learn that men in every age have been confronted with the same fundamental problems which we face today. Dr. Paul Hanna lists nine basic activities that humans everywhere and throughout history have always carried on together. These are:

1. Protecting and conserving life, health, resources and property.
2. Producing, distributing and consuming food, clothing, shelter and other consumer goods and services.
3. Creating and producing tools and techniques.
4. Transporting people and goods.
5. Commucating ideas and feelings.
6. Providing education.
7. Providing recreation.
8. Organizing and governing.
9. Expressing esthetic and spiritual impulses.

The realization that history is the record of man's efforts to solve basic problems common to all men should help to further our understanding of peoples in other lands.

Finally, there is the contribution of the "historical method." We learn from the past by means of those rules of analysis and synthesis which we call "historical method." The rules are used by students in all fields of endeavor to distinguish the true and the false. The discovery of polio vaccine, for example, was possible only because scientists studied the accomplishments and failures

of scientists of the past. These rules are essential to intelligent action.

History justifies its inclusion in the curriculum because of its contributions which are unique and indispensable to the development of a citizenry that can participate intelligently in social, political, and economic groups extending from one's own home outward to the neighborhood, to the school, to the community, to the state, to the nation, and to the world.

Pressures Applied by Higher Education

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AMONG the pressures being applied to public education at the present time is the undocumented criticism by some individuals who hold responsible positions at the college and university level. It is from this group that one may hear the loudest cries concerning what the high schools should do to improve the curriculum. The need for scientists and engineers and for challenging the gifted has activated the formal discipline "school" both at the college and secondary school levels. There is little doubt but that the primary concern of these critics is to influence the secondary school's curriculum in the direction of emphasizing requirements for high school graduation.

This pressure from within the ranks of organized education appears to be having a "double-barreled" effect. It is receiving attention both from the laymen and from teachers victimized by the subtlety of the criticism critics decry "the low quality of instruction" and wish for a "return" to standards so American youth will be prepared for college when they graduate from the public secondary schools.

In one respect this is an example of "buck passing." The colleges are criticizing the high school for not preparing students when they should be making plans for expanding their programs to take care of projected increases in enrollment in higher education. They are trying to justify their unwillingness to screen students who apply for admission.

The critic bandwagon driven by a few professors and deans in liberal arts colleges is not carrying a cargo of "unified effort" in public education in the United States. The vibrations from the drum beats signify unrest, indecision, frustration, and symptomatic treatment relative to the problems that confront education. Also it may represent a weakness in the working relationship between colleges and secondary schools.

The major issue seems to be that of preparedness programs in high school built around required courses for college entrance requirements. For twenty-five years or more we have known that college success does not depend upon the courses taken in high

school. Douglas[1] found that the relationship between patterns of high school subjects and college success is negligible and affects the correlation with college success very little. In a study at the University of Minnesota, Kronenberg[2] found that there was no significant difference in the college scholarship of students who had not taken certain subjects ordinarily required for admission with students of equal ability who had taken these courses in school. These studies reveal, as others have done, that taking a particular course in high school makes little or no difference in the quality of college work done by students in college or university.

Apparently some of the professors who are talking about deficiences of high school graduates and a need for more required courses for the secondary school students either are not familiar with the research in this area or they ignore the facts. Such a flagrant disregard for the results of scientific inquiry concerning problems in education points up the difficulty in making progress in education. About the only research accepted by these pseudo scientists is in the defense program, agriculture, and medical science. Apparently some of our college critics are satisfied to allow the emotions and traditions to have full sway in matters of teaching, learning, and curriculum building.

One example of this type of uninformed approach to the problem of college admission is to be found in a situation in which an official of a school of engineering prepares a list of students with their "deficiencies" and distributes it to principals in the schools from which the students had graduated. The following quotation was lifted from a bulletin that was sent to some school men in November of 1957.

> The attached report is submitted as a factual attempt to be helpful in the drive to get high school students better prepared for Science and Engineering, and not as a criticism of any school or department.
>
> Only 1957 graduates are considered as it is assumed they had every opportunity to find out about our entrance requirements, and had probably made up their minds on Engineering long before they came to register at the College.
>
> Our entrance requirements for the Engineering Division include: 2 units of Algebra, 1 unit Plan Geometry, ½ unit Solid Geometry, and 1 unit of Mechanical Drawing. *Beginning the*

[1] H. R. Douglas, *The Relation of High School Preparation and Certain Other Factors to Academic Success at the University of Oregon* ("Educational Series," University of Oregon Publications, Vol. 3, No. 1; Eugene, Ore.: University of Oregon Press, 1931).

[2] Henry Kronenberg, *Validity of College Entrance Requirements* ("Studies in Articulation," University of Minneapolis Committee on Education Research, 1937), pp. 61-83.

Summer of 1957, 1 unit of Physics has been added to the above requirements.

Hence, a student having "no deficiency" would have all the above Math requirements plus the one year of Mechanical Drawing. For this study Physics is not yet being considered as a "deficiency."

This example points up the influence of the philosophy of formal discipline in the thinking of some admissions officials even though these doctrines have been questioned for about thirty years. The inference from such an approach is that the high schools are not "preparing students for college." Two specific ideas are implied; first, the quality of instruction has deteriorated and the students are not "required" to take "college prep" courses. When a college professor presents such a report to the P.T.A. or other community groups the laymen do not have all the facts, neither are they able from such a presentation to discuss the subject in a frame of reference in which they can understand relationships.

Perhaps one of the first factors to be analyzed is that of courses required for a high school diploma. There is a difference between requirements for graduation and college entrance requirements in this particular situation. For example, "x" college has mechanical drawing listed as a requirement for entrance but few schools, if any, require mechanical drawing for a high school certificate. Thus an individual may be "deficient" and be a straight "A" student with four years of science and four years of math. Furthermore, a student may have taken as many as three years of science in high school and still be labeled "deficient" by the college in question because he did not take high school physics. A second point has to do with the quality of students entering college. It is a fact that institutions of higher learning compete for better students although some do not attract the higher calibre of student. (It should be pointed out that some colleges take students with poor scholastic records because they are interested in increasing their enrollment.)

A third factor to consider has to do with screening and offering "make-up" courses by the college. It is hard to imagine any one talking about deficiencies while enrolling all or most of the students who register at the college. If an engineering school accepts students who make unsatisfactory scores on an aptitude examination, how can it pretend to maintain standards and report "deficiencies" of students who enter. If the college does not screen and select only the better students it is not assuming the responsi-

bility placed on it by the state. Selection is a function to be performed by institutions of higher learning, not by officials in the secondary schools. There were sixteen students from a group of fifty-seven who entered the engineering school of "x" college from a school system in the fall of 1957 who made unsatisfactory scores on the Engineering Aptitude Examination. The question is: why did the college accept these students? The counselors or principals would not have recommended these students for college much less engineering school.

A fourth point to question is the basis for determining what should be required for college entrance. Do engineering students really need mechanical drawing and physics to succeed in college? Do students entering with "deficiencies" achieve as well as those entering with no "deficiencies"? Until college officials can answer these questions there can be no scientific approach to this problem. A study of the group entering "x" engineering school from a particular school system revealed that twenty-six (46%) of the students labeled "deficient" by the dean of the college made better than the average score on the Engineering Aptitude Examination. The median score for this group was twenty-five points above the average score on the aptitude test.

The fact that approximately 45% of the students from a particular high school system (with deficiencies) made better than "average" on the Engineering Aptitude Examination indicates one of two things: either the requirements set up by the college, which are basic in determining "deficiencies," are not valid or the aptitude examination is not reliable. A coefficient of correlation of the scores made by the fifty-seven students from a selected school system on the Engineering Aptitude Examination and the academic Achievement average of the students was about $+.93$. This is an extremely high "r" and may indicate that the aptitude test is a good device for predicting college success. It this is the case, one would need to question further the validity of the "deficiency" idea presented by some professors in the engineering school.

The philosophic factor should be mentioned in connection with a problem of this magnitude. It is in this area that we find some underlying assumptions, broad generalizations and evaluative statements which express values concerning education in a democratic society. One needs to analyze the philosophy which underlines this approach to find the essence of the controversy.

From the summary of a particular situation presented in this article, one may make the following deductions:

1. Some of the major forces that are applying pressure on the secondary schools are from within the ranks of the college.
2. Many of the administrators in colleges and universities hold to the doctrine of formal discipline as a philosophy of education.
3. Some officials in higher education are using the wave of criticism as an "axe" to narrow the high school curriculum to a college preparatory route.
4. A report such as the one referred to in this presentation is an example of treating a "symptom" rather than a cause.
5. It signifies a shifting of responsibility in that the college does not asume the role of screening its students but admits students for remunerative purposes and points up the "deficiency" problem, thereby implying that high schools are not teaching what they should teach.
6. A report prepared by college personned that has no evidence to support the basic idea presented points up a need for the scientific attitude among teachers working with future scientists and engineers.

Perhaps even more significant than any item listed as an implication for curriculum and instruction in the statements above is that of a need for a closer working relationship between educational leaders in the public schools and those at the college or university level. The following quotation points up a situation that indicates or a lack of a continuity of learning in our educational program.

College work is not related to high school work. Anybody, I would say, of average intelligence today could enter the college work and take physics and chemistry without ever having heard of it in high school and do exceedingly well. This merely means that the college teacher would rather teach at the elementary level, where apparently most of them are more at home, than to build on what the high school teacher has taught. If this be treason, make the most of it![3]

Pressures applied by one segment of organized education to another is simply an example of shifting of responsibility and not facing up realistically to the problems that confound education. This method does not represent a scientific approach to the problems that face public education in the United States. Airing the

[3] Reuben G. Gustavson, "Science and Mathematics Teaching in the High School," *Strengthening Science Education of Youth and Industry*, Proceedings of the Seventh Thomas A. Edison Foundation Institute, N. Y.: New York University Press, 1956, p. 32.

differences before the lay public makes our position less tenable. There are enough challenges from without professional education to occupy the administrator's time without spending time and effort to counteract the influence of "authorities" in the schools of engineering and science.

Can High School Students Do Research?

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CURRENTLY the science programs in our secondary schools are being widely discussed with much of the emphasis upon methods that might be used to interest the gifted students in science and to challenge them intellectually. Among the proposals for doing this is the idea that these students should be provided with real scientific experiences in the high school science courses, that is that they should be encouraged and expected to do research. In many places courses have been set up in which the gifted students actually do spend a lot of time on research, some of it quite original.

The argument is frequently heard, however, that such procedure is a waste of time, that immature students either are so inefficient in laying their own plans and carrying them out or else they require so much individual guidance that only a small fraction of the material is covered that could have been covered by more direct methods. Furthermore, the argument goes, most of this "research" is only "rehash" anyway, and besides it is only the real gifted students who can benefit at all from it. There is considerable evidence to show that more learning goes on when time is apparently being wasted than meets the eye, for students who have been taught by such research methods perform as well as or better than students taught in more conventional ways on standardized tests of subject matter.

Whatever discoveries are new to the student are original even though they have been "discovered" dozens of times by other people; nevertheless, I would not advocate teaching a whole course, say of chemistry, by research methods. This could really be a horrible waste of time. But the students should be allowed the opportunity of investigating whatever strikes them as of interest as long as it is within the realm of possibility and within the materials of the course. Let's go one step further and say not that they should be "allowed" to investigate but that they should be *encouraged* to do so.

Following are two examples to show that research is not only for the gifted students and that high school students can truly be original in their thinking through a problem.

A physical science class had investigated the conductivity of various chemicals by measuring the amount of current which would pass through them in solid state, molten, and in solution. The question next posed to them was, "Does the electric current passing through solutions decompose the materials in the solution? If in a given instance you find that this is the case how can you identify the products?" This was a small class and worked well as a group so the problem was to be solved as a group project.

In an entirely free discussion (with no help from the teacher) the class first decided that in an experiment they would have to use direct current in order to have each pole constantly charged. Next they began discussing means of detecting whether any decomposition had occurred. They decided upon two methods: (1) Placing an ammeter in the circuit and noting whether its reading dropped during the passage of current through the solution, thus indicating a weakening of the solution. (They eventually found that this was not reliable but it was certainly a good hypothesis.) and (2) observing the formation of a precipitate, a coating on either electrode, or a gas bubbling from the solution.

The next question that arose was, "How can we identify a product if we obtain one?" The group considered the possible products which might result from the solutions they were going to test and found easy chemical tests for certain of the metals in the appendix of a chemistry book. They also found the characteristics of the possible gases and how to test for them, such as using a glowing splint for oxygen, the explosive properties of hydrogen, the odor of sulfur dioxide, etc. But then came the problem that really showed the ingenuity of thinking of which students are capable in a free situation where each person knows that any idea he has is not going to be laughed at but considered for its worth. The problem was to trap the gaseous product if any appeared so that it could be identified.

There was much discussion which followed a lot of blind alleys but eventually there emerged these suggestions: (1) Put a funnel over the beaker containing the reaction and direct the gas up into a test tube. This was rejected on two counts if more than one gas were being produced they would be remixed and whatever gas was caught would be mixed with air. (2) Turn the beaker containing the reaction upside down. This was at first considered a wild suggestion but discussion showed that it could be done by filling the beaker with the test solution, covering the

mouth and inverting it, and submerging the mouth in a pan containing more of the test solution; the electrodes would then be inserted upside down into the beaker and any gases formed would collect in the beaker with no air to dilute them. This was now considered a fine idea except that if two gases were formed they would still be remixed. (3) Use two beakers, a separate one for each electrode, connected through the solution in the pan used for the base. Thus the gas at each electrode could be collected separately. (4) The final suggestion was to use two test tubes in a beaker instead of two beakers in a pan in order to get a more usable setup and to speed up the process because less gas would be needed to fill a test tube than a beaker.

The class then performed the experiment as they had planned with sveral solutions, collected data, and reported results. Isn't it apparent that a group which could think through a problem and carry out plans to a final correct conclusion such as this is learning some pretty vital lessons even though the actual content, in this case the products of passing an electric current through various solutions, could be told to them much more efficiently than they could find it out for themselves?

In a chemistry class which had been led through laboratory directions in which they were told what to do to the point where they were pretty familiar with the laboratory and with procedures, small groups were charged with devising means of performing experiments in answer to certain questions concerning the activity series of metals. The question which is pertinent to this paper was "What are the reactions of the first five members of the series with water?" This seemed a fairly straight-forward question with a fairly simple straight-forward, try-it-and-see answer, but—

One member of the group tried magnesium, one calcium, and one sodium. It was quickly found that magnesium reacted with hot water to liberate hydrogen which could be collected if the reaction was performed in a generator arrangement using a flask and delivery tube. The second member found that calcium could be caused to react in a similar setup, but the third member was unlucky. He set up a generator like the others, but when he added a small piece of sodium nothing happened. (He just happened to get hold of a piece of impure metal heavily covered with kerosene so that it failed to react for some time.) Considering it safe in view of the first reaction he took a larger piece of sodium, dropped it into the flask, and replaced the cork. This piece was

quite active and hydrogen was liberated so rapidly that the accumulation of pressure popped the cork off his generator.

He didn't like this at all and came to the instructor asking whether there wasn't some way to control this reaction, since (he deduced) potassium would be even more violent and the class shouldn't be asked to try such an experiment. He was told to *devise* a controlled method of performing the experiment. His solution was evolved about as follows

1. What I need to do is use small pieces, but pure and clean ones. Yes, but I can't collect the hydrogen in pure form if I have to keep opening the flash to insert a new piece of sodium.

2. Then I need something to keep the sodium and water apart until I am ready for the reaction and to separate them when I want to stop it. A mechanical device will not do since the sodium cannot be kept in the air or it will oxidize.

3. What will sodium float on? It floats on the surface of water when it reacts with it. It is kept in the bottle under kerosene or mineral oil. There is some cottonseed oil in the stockroom.

4. If I place cottonseed oil on top of the water, and if sodium floats on cottonseed oil, I could push the sodium down through the oil with a stirring rod when I want to cause a reaction and let it go when I want to stop it. I could also keep it from oxidizing in air by holding it under the surface of the oil but not down to the water. (He then asked for permission to try this and found that it would work, but he didn't like the necessity of pushing the sodium down to start the reaction since he had to open the flask to do so.)

5. The sodium skitters around on the surface of the water when it reacts with it and sometimes bounces into the air. This might be due to the light hydrogen bubble carrying the piece of sodium with it. Why don't I try putting some mineral oil on top of the water and then drop in the sodium. I know it will sink through the oil to the water and begin reacting. Maybe it will pop up into the oil layer, as it pops into the air, and this will keep the reaction down to a relatively slow pace.

He asked for permission to try this arrangement and found that it worked better than he had expected. The hydrogen bubble carried the piece of sodium all the way to the top of the mineral oil layer and then escaped leaving the seodium to sink and produce another bubble.

This was research. The problem was a new one to this student and it certainly was a real one. Furthermore, the solution which

he worked out is new as far as I can determine. It may have taken a long time for this student to learn a little bit about the reaction of sodium with water, but look at the investigative proficiency he was beginning to develop, a true budding scientist if his interest can be maintained by similar challenging experiences.

"What Is Art Education for?"

ELLIOTT EISNER
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"I may safely predict that the education of the future will be inventive minded. It will believe so profoundly in the high value of inventive or creative spirit that it will set itself to develop that spirit by all means within its power."
—HARRY OVERSTREET

IS ART EDUCATION merely the whipped cream on the cake or is it a part of the meat of basic education? Can we justify to our students the fact that most of them are required to study art? Is this merely an opportunity that students have to "express themselves," in history, mathematics or the school cafeteria, or is an education in art a necessary and unique experience?

The study of art involves many youngsters, and because we consider it of such importance we need to constantly evaluate our goals and the methods chosen to accomplish these ends within the secondary school.

Most of us agree that one of the primary goals in art education is to help students develop a visual and mental sensitivity that will affect their living experiences. We want to teach them how to see what they look at.

Through effective art education the student should become able to see color and form for its own sake. A new dimension should permeate their vision so that they become conscious of the world in a visually stimulating way. They should learn how to pick and choose objects in their environment for their merit as art objects: whether it be a rusty can or a modern building. In learning how to see, a concomitant feeling must enjoin the seeing. The ability to react visually is in itself a reorganization of experience in which unique personalities modify what is seen. The next step for many will be an urge to create this sensation for others as well as themselves to see.

Secondly, we want to help students learn how to use their creative capacities to solve problems. The solution of an art problem is unique in that it requires the use of both the intellect and the emotional sensitivity inherent within each personality. There is little which is more problematic than a white sheet of paper or a lump of clay. Out of these raw materials, the student

must create an art form. He must struggle to learn how to feel towards his efforts as they develop, and how to use his intellect and understanding to change and improve his efforts so that the final problem will be successfully solved. The basic creative process in any field, whether art or science, differs little in process. If we consider the bold and sensitive use of the imagination as one of the requisites for the creativity, then do not the Einsteins, Fermis, Newtons and Galileos fall into this category? One of the most important factors that made these men great was not in their use of the scientific method itself, but rather in their ability to conceptualize imaginatively enough to put the scientific method to use to arrive at a significant end. Here we see the fusion of art and science, a reaffirmation that in man's conquest of nature, art and science are inextricably bound.

Thirdly, we need to create a roundness to art. Art education can, and should be, education in its broadest sense. The sensitized individual should not be narrow, but should rather be broad in his scope so that his educated sensitivity transfers to literature, music and drama, as well as plastic and graphic form. The basic component parts of all the arts are similar—only the material is different. Where the composer uses sound, the painter uses pigment, and the author words. Color, line, dimension, rhythm, mood, tonal value and texture are used in all the arts. Why should we arbitrarily separate them when their inter-relationship is so important? Poe, as a writer, must have been interested in sound; Beethoven, while working exclusively in sound, lays great emphasis upon intellectual idea; Kandinsky stresses rhythm, idea and color in his work. As the inter-relationship of the arts is logical, so should we, as teachers, attempt to be logical in our teaching so that what we teach can be meaningful to the learner.

In learning how to respond to form in its abstract sense, the student may develop a keener appreciation of life generally as it relates to people and ideas. Humanitarianism must have at its very foundation the humanities.

How are we to accomplish such goals? How can we enrich our basic courses so that they become a full experience in the arts? It seems that emphasizing the making of an art product is not enough. Too often the making becomes isolated for the maker. No correlation is made to the basic elements he uses in other areas related to the specific art activity. Very often we, as art teachers, tend to over-emphasize artistic accomplishment unconsciously,

probably because artistic accomplishment may be easier to measure, in a sense, than is artistic appreciation, and also because we tend to measure our ability as art teachers in terms of the products produced by the students in our classes. However, one of the most important learning experiences a student can have within our classroom is that which teaches him to become visually aware. This type of achievement cannot be put on walls for all to see. This type of achievement is abstract but is, or should be, our primary aim. It is very possible that a student may learn how to respond aesthetically without achieving graphically. Some of our greatest art critics have never been serious painters or sculptors. On the other hand, we want to be careful not to let our courses be just appreciation courses. The doing is important for the student. It is in the doing that the imagination should come into play. The student should be encouraged to experiment with new materials and methods. In studying line an abstract approach may prove more fruitful for some students than a realistic one in which the line that is drawn is not as important as the figure that it is being used on. In a purely abstract investigation of line, the line becomes the main concern. How does a bold line look, a weak line, an angry line, a simple line, a nervous line? When students realize how line can express various feelings, they may recognize the reason why a Van Der Rohe building and a flamboyant Gothic building are worlds apart in feeling. They come to know why and how Daumier has succeeded in communicating certain feelings to the viewer through the use of line.

Color can be handled in a like manner so that students recognize how color affects our psychological behavior.

When students become aware of how these abstract art elements operate to communicate to people, correlations may be made to other areas. Rhythm is used in painting; is it used in music, poetry, the short story? If so, how? Mood, color, tone, are a part of the make-up of the poem, the symphony, the drama. T. S. Eliot creates a special mood in his poem, "The Hollow Men," Poe, a special mood in "The Raven." How are these pieces of work similar in use of elements to a painting by Picasso while he was in his blue period? In the fourth movement of his First Symphony, Brahms sets the stage for a melodic line which he proceeds to develop throughout the remainder of the symphony. How does his use of tone, line and repetition approximate those used by Poe, Eliot and Picasso in their work?

In learning to see related elements in all the arts, a much greater awareness takes place which is not only visually manifested, but audibly and intellectually as well. The total being is learning how to respond. One form of the arts acts as a foil for the other. The appreciation of one aids towards the understanding of the other, and, in the long run, it teaches the student how to become aware of the world in its basic manifestations.

Basically then, the point of view of this paper falls into two major areas. One is that art education, in its fullest sense, helps make people aware—visually and mentally—of the world about them, and that it helps them respond to the arts and the rest of the humanities in a keener fashion. While a sunset may be quite obvious even to the most fogged vision, the old crumbly wall, the elevated tracks, or the rusty fence may be quite difficult to see as an art form. Through art education, the field of vision becomes broadened.

Secondly, art education should be creative education. It should encourage students to investigate, experiment and create. It should go beyond "self expression." The student copying a picture is expressing himself psychologically as much as the student who uses his mental capacities to his limit to work out a visual problem. Creative self-expression is the reorganization of experience put forth in a way that reflects both the object that is experienced and the unique personality of the one who experiences it. This expression gains merit as an art form when it takes on those qualities which create order in those expressions and enhance them. The elimination of fear is essential for such accomplishment. By encouraging students to explore new materials and methods, by giving credit verbally and literally to the student who makes a successful failure through experimentation, we are encouraging the use of the mind at its optimum level.

It has been said, "If you want to learn, teach." Creative teaching is a highly valuable way of learning in that the creative teacher must do what the creative artist does. He must assimilate experiences, reorganize them in terms of his own personality structure, and then formulate these experiences in a way which can be experienced by others. In the assimilation of experiences the teacher must understand what he has assimilated, and in the reorganization of this content, he will add his own unique personality. In the delivery of the material he has assimilated and restructured,

he must use his imagination in order to give it form in a meaningful manner.

There is no one method of achieving these goals. We must, however, be aware of the goals and then we, as teachers, must do what we ask of our students. We must search our own minds for those creative activities in art which will help us to arrive at our destination.

Book Reviews

BLAINE E. MERCER AND EDWIN R. CARR (editors), *Education and the Social Order*. New York: Rinehart & Company, Inc., 1957. 585 pp.

This volume is an interdisciplinary study of the social aspects of the contemporary educational process. Seventy studies that focus light upon the recurrent issues and problems of modern education are presented. Among the many outstanding authorities, who need no further introduction, whose pronouncements have been included are Benedict, Commanger, Conant, Cooley, Dewey, Hutchins, Kandel, Mead, Murdock, Thayer, Warner, and Whyte. Representative reports of nine specialized agencies are also reprinted.

The theme of the book is that education is a social process and must be studied within the context of the whole social order. The editors have divided the presentation into two parts: Part One is devoted to "Culture, Society, and Education." In this division, six chapters are devoted to the general aspects of education in the whole social order of mankind. Part Two discusses "The School in American Society."

Chapter X, "The Teacher" deserves special praise at a time when the teacher shortage is so grave. The volume is concluded with a succinct and valuable chapter on the future of educational sociology. The editors, to assist the user of this source book, have introduced each of the fourteen chapters with sufficient and accurate general information to permit insight to each of the several selections. In addition to this, care has been exercised to append more than 100 critical bibliographical citations for further research and reading.

Education and the Social Order is a welcome arrival at a time when educational sociology in this country and in Europe is on a new and promising threshold. This alone makes it a valuable contribution. Not only will it be useful to the prospective and in-service educator, but it will serve to enlighten the laymen relative to the many sociological factors that impinge upon education today and tomorrow. It is a library *must!*

—Elmer Lawson,
University of Massachusetts